LANDIRENZO OMEGAS EVO 3.0 (5-6-8 CYLINDER)
LANDIRENZO EVO ECU (5-6-8 CYLINDER)

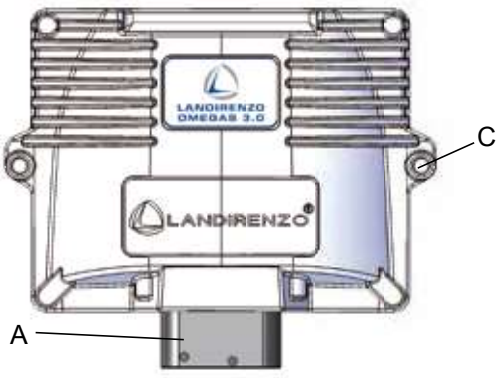
LANDIRENZO OMEGAS 3.0 and LANDIRENZO EVO are electronic ECU (5-6-8 cylinder) that manage the supply of gas on vehicles with multipoint injection systems. The ECU uses various signals from the petrol injection ECU (see “Operating Principle“ section) to recalculate the right fuel metering for the vehicle, to manage the switch from petrol to gas and vice versa in the event of running out of gas.
It features an auto-diagnostic system and manages changing back to petrol in the event of a fault.

SIGNALS FROM THE ENGINE
- Petrol injection times
- Radiator coolant temperatures
- Intake manifold vacuum readings
- Lambda probe
- RPM
- Battery voltage
- OBD (only on LANDIRENZO OMEGAS system)

SIGNALS FROM GAS SYSTEM COMPONENTS
- Gas pressure
- Gas temperature
- Fuel level sensor

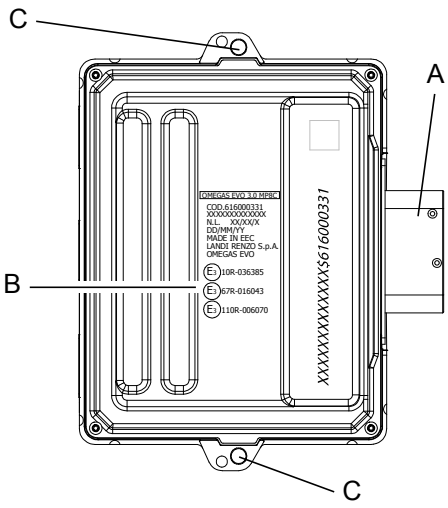
GOVERNING GAS SYSTEM COMPONENTS
- Fuel switch
- Fuel level indicator
- Regulator solenoid - solenoid(s) tank(s)
- Gas injectors

FUNCTIONS
- Petrol injector deactivation
- Diagnostics
- Communication with dedicated software installed on PC
- Communication with OBD (only on LANDIRENZO OMEGAS system)
- Lambda probe emulation (optional, only if necessary)



A. Connector
B. Homologation
C. Mounting points

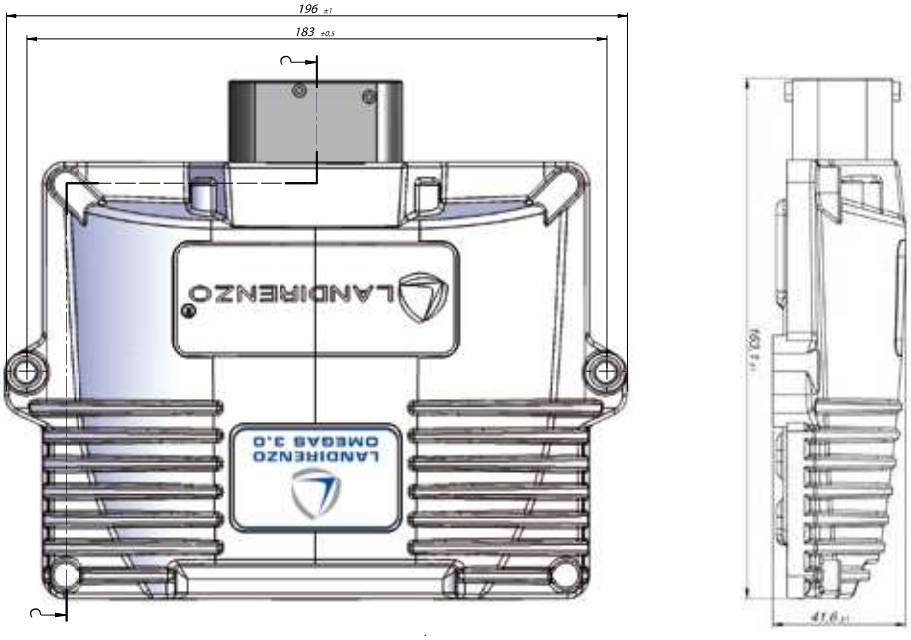
* OMEGAS and EVO



TECHNICAL DATA

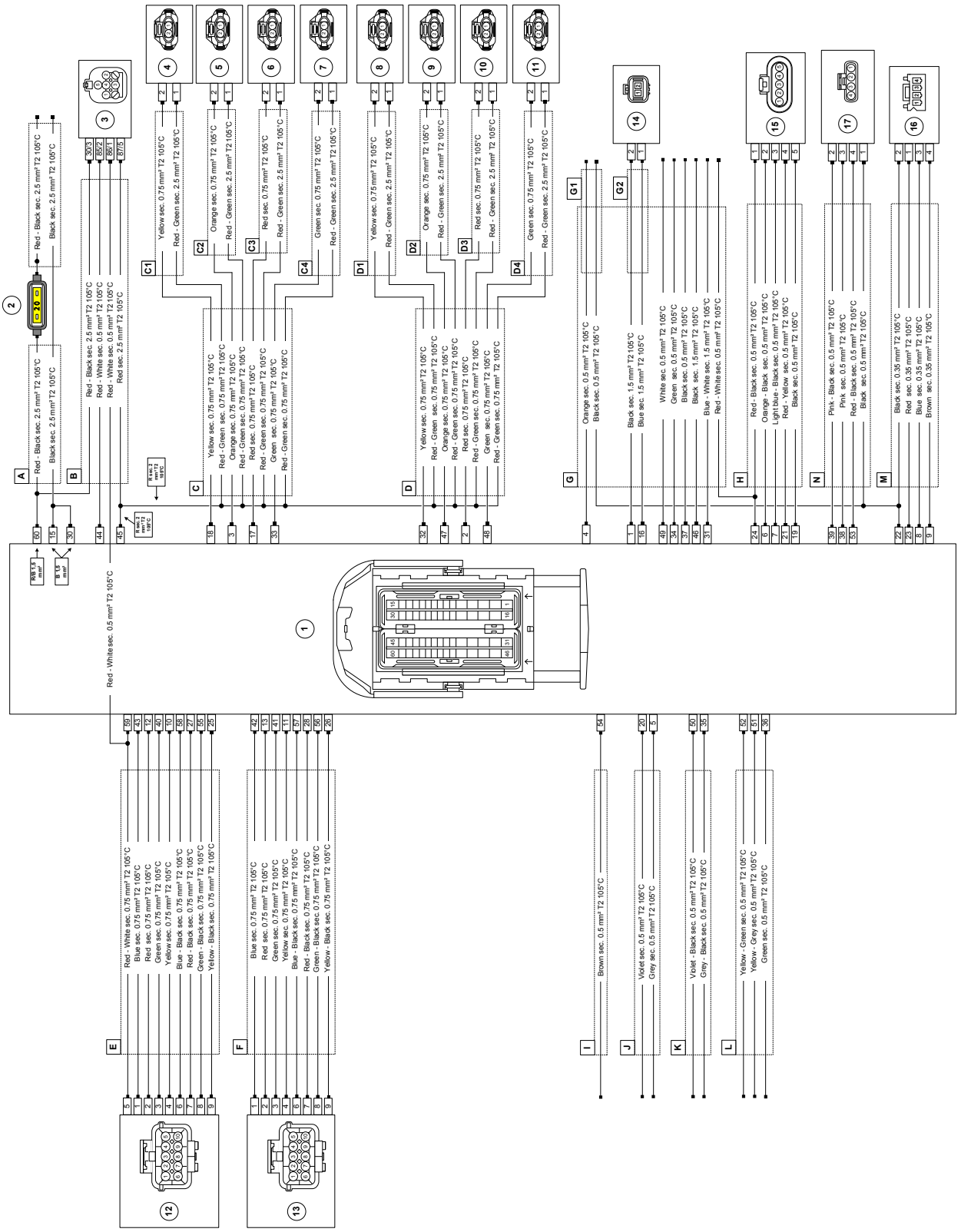
GAS TYPE AND NUMBER OF CYLINDERS	LPG, CNG - 5÷8 CIL
CASE	METALLIC
SUPPLY VOLTAGE:	10 ÷ 16 V
MAX CURRENT WITH ACTUATORS OFF :	≤ 0.5 A
STANDBY MAX CURRENT :	≤ 50 µa
DRIVER INJECTORS:	8
SOLENOID VALVES OUTPUT:	2
MAXIMUM CURRENT (FOR SINGLE OUTPUT):	2A*
FLASH MEMORY :	128 kb
PROCESSOR SPEED (pll):	50 MHz
WEIGHT :	400 g
DIMENSION:	196x163x43 mm
WORKING TEMPERATURE:	-40°C ÷ 120°C
PCLASS IP :	IP6K9K
ECU CONNECTOR:	60 PIN
HOMOLOGATION:	E3 67R-016043 - E3 110R-006070 - E3 10R-036385

* in case of more solenoids, use relay harness kit (e.g. KF 387 AEB) or additional flow relays suited to the current required.



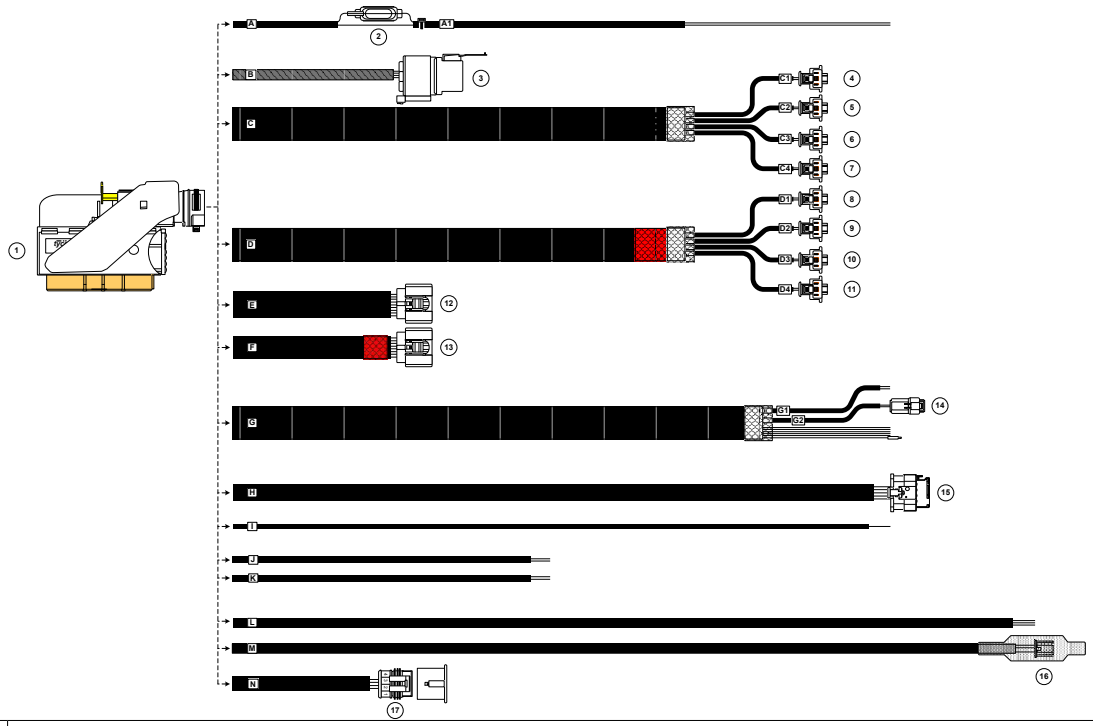
* OMEGAS and EVO

LANDIRENZO OMEGAS EVO 3.0 PIN-OUT (5-6-8 CYLINDERS)



Pin	Name	I/O	Function
1	GND_EV1	-	Shut-Off Valve 1 Ground
2	GAS_INJ4	OUT	GAS Injector N°7
3	GAS_INJ2	OUT	GAS Injector N°2
4	PREG_TEMP_IN	IN	Pressure reducer temperature
5	LAMBDA1_OUT	OUT	Lambda sensor 1 (ECM side)
6	TGAS	IN	Gas temperature
7	PGAS	IN	Gas pressure
8	SW_IN	IN	Fuel switch button input
9			
10	P_INJ4	IN	Petrol Injector N°4 (Injector side)
11	P_INJ8	IN	Petrol Injector N°8 (Injector side)
12	P_INJ2	IN	Petrol Injector N°2 (Injector side)
13	P_INJ6	IN	Petrol Injector N°6 (Injector side)
14	FPUMP_CUT_CMD	OUT	Fuel Pump Cut Command (to ext. relay)
15	GND	-	Power ground
16	GV1_OUT	OUT	Shut-Off Valve 1 Command
17	GAS_INJ3	OUT	GAS Injector N°3
18	GAS_INJ1	OUT	GAS Injector N°1
19	GND	-	Logic ground
20	LAMBDA1_IN	IN	Lambda sensor 1 input (sensor side)
21	MAP	IN	Manifold Pressure Sensor Input
22	GND	-	Logic ground
23	VCC_S	OUT	+5V sensors
24	VCC_S	OUT	+5V sensors
25	P_INJ4_OUT	OUT	Petrol Injector N°4 (ECM side)
26	P_INJ8_OUT	OUT	Petrol Injector N°8 (ECM side)
27	P_INJ2_OUT	OUT	Petrol Injector N°2 (ECM side)
28	P_INJ6_OUT	OUT	Petrol Injector N°6 (ECM side)
29			
30	GND	-	Power ground
31	GV2_OUT	OUT	Shut-Off Valve 2 Command
32	GAS_INJ5	OUT	GAS Injector N°5
33	GAS_INJ4	OUT	GAS Injector N°4
34	VCC_LEV_SENS	OUT	Power supply for AEB806 sensors
35	LAMBDA2_OUT	OUT	Lambda sensor 2 (ECM side)
36	K-LINE	IN/OUT	K-Line
37	GND	-	Logic ground
38	TX	OUT	Serial line Tx
39	RX	IN	Serial line Rx
40	P_INJ3	IN	Petrol Injector N°3 (Injector side)
41	P_INJ7	IN	Petrol Injector N°7 (Injector side)
42	P_INJ5	IN	Petrol Injector N°5 (Injector side)
43	P_INJ1	IN	Petrol Injector N°1 (Injector side)
44	MAIN_REL_CMD	OUT	Main Relay Command
45	KL_30P	IN	KL.30 Protected Power Supply from external Main relay
46	GND_EV2	-	Shut-Off Valve 2 Ground
47	GAS_INJ6	OUT	GAS Injector N°6
48	GAS_INJ8	OUT	GAS Injector N°8
49	TNKLV_IN	IN	Tank level sensor input
50	LAMBDA2_IN	IN	Lambda sensor input 2
51	CAN_L	IN/OUT	CAN Low
52	CAN_H	IN/OUT	CAN High
53	+VBATT_OUT	OUT	Battery voltage for serial interface
54	RPM	IN	Engine speed
55	P_INJ3_OUT	OUT	Petrol Injector N°3 (ECM side)
56	P_INJ7_OUT	OUT	Petrol Injector N°7 (ECM side)
57	P_INJ5_OUT	OUT	Petrol Injector N°5 (ECM side)
58	P_INJ1_OUT	OUT	Petrol Injector N°1 (ECM side)
59	KL.15	IN	KL.15 KeyOn
60	KL_30	IN	KL.30 Power Supply from battery

LANDIRENZO OMEGAS ECU 3.0 LAYOUT (5-6-8 CILINDRI)



REF.	COMPONENTS
1	N.1 60-way connector code 1-284742-1 + cap + lever + Secondary Lock series MQS code AEB 741001028 provided in subcontracting N.3 F-Terminal code 968220-1 series MQS 0.5 Clean Body sec. 0,2 mm² / 0,35 mm² N.31 F-Terminal code 968221-1 series MQS 0.5 Clean Body sec. 0,5 mm² / 0,75 mm² N.8 F-Terminal code 1452158-1 series MQS 1.5 Clean Body sec. 0,35 mm² / 0,5 mm² N.16 F-Terminal code 1241608-1 series MQS 1.5 Clean Body sec. 0,75 mm² / 1,5 mm² N.1 Plug for open cavity code 284583-1 series MQS 0.5
2	N.1 Fuse holder IP67 sec. 2,5 mm² code AEB 2039400000 provided in subcontracting N.1 Blade fuse ELMAC EATU20A. Alternatively code 07.00350 20A UNIVAL MTA
3	N.1 5-way connector code 60430141 FCI code AEB 741001081 provided in subcontracting N.2 F-Terminal code 60040031 series DCS-1 6,3 sec. 0,5 mm² / 1 mm² N.2 Grommet code 60992607 series DCS-1 - Green -sec. 0,5 mm² / 1 mm² N.2 F-Terminal code 60040041 series DCS-1 6,3 sec. 1 mm² / 2,5 mm² N.2 Grommet code 60992604 series DCS-1 -Giallo -sec. 1 mm² / 2,5 mm² N.1 Relay code 1-1414552-0 series Mini ISO Tyco N.1 Plug for open cavity code 60992602 series DCS-1 -Red
4 - 5 6 - 7 8 - 9 10 - 11	N.8 2-way connector code AEB 741001070 N.16 F-Terminal code 1703034-1 TYCO sec. 0,5 mm² / 1 mm² N.16 Grommet code 828904-1 series JPT TYCO sec. 0,3 mm² / 1 mm²
12 - 13	N.2 10-way connector code AEB 741001045. N.17 F-Terminal code 171662-1 series ECONOSEAL TYCO sec. 0,5 mm² / 1 mm² N.17 Grommet code 347874-1 series ECONOSEAL TYCO - Green –sec. 1 mm² N.2 Secondary Lock code AEB 741001046. N.3 Plug for open cavity code 172748-2 series ECONOSEAL TYCO
14	N.1 2-way connector code 211PC022S0049 series SICMA FCI N.2 F-Terminal code 211CC2S1160T series SICMA3 FCI sec. 0,35 mm² / 0,75 mm²
15	N.1 5-way connector code AEB 741001040 provided in subcontracting. N.5 F-Terminal code 1452668-1 series MCP sec. 0,5 mm² / 0,75 mm² N.5 Grommet code 967067-1 series MQS - Green -sec. 0,5 mm² / 0,75 mm²
16	N.1 4-way connector code PAP-04V-S series PA JST. N.4 F-Terminal code SPHD-001T-P.05 JST sec. 0,13 mm² / 0,35 mm²
17	N.1 4-way connector code AEB 741001037. N.4 F-Terminal code 282403-1 series S.SEAL sec. 0,3 mm² / 0,5 mm² N.4 Grommet code 281934-4 series S.SEAL - Green -sec. 0,35 mm² / 0,5 mm²